



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/802,717

03/18/2004

Fumikazu Saito

Q80002

5046

23373 7590 01/31/2008
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

BLAN, NICOLE R

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

01/31/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/802,717	Applicant(s) SAITO ET AL.	
	Examiner Nicole Blan	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 7-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendments to claims 1 and 3 as well as the addition of new claims 7-9 filed on November 2, 2007 have been acknowledged. Currently claims 1-3 and 7-9 are examined on the merits.
2. The examiner withdraws the objection to the specification.

Response to Arguments

3. Applicant's arguments filed on November 2, 2007 have been fully considered but they are not persuasive.

In response to the Applicant's argument that TeleChem does not teach the fixing member being supported above the cleaning solution, the examiner respectfully disagrees. TeleChem teaches in Figures 1-2 that the legs of the support member hold the fixing member above the bottom of the tank. Furthermore, the tank is capable of holding cleaning solution at a lower level than the fixing member. Therefore, TeleChem teaches the supporting member supports the fixing member above the cleaning solution so that a stylus portion of the probe pin is immersed in the cleaning solution.

Claim Interpretations

4. Applicant uses "means for" language in Claims 1 and 3. These claims were interpreted under 35 USC 112, 6th paragraph. Claim 1 states "...ultrasonic vibration generating means for generating ultrasonic vibrations directed to the cleaning solution in which the stylus portion of the probe pin facing downward is immersed." The source of the "ultrasonic vibrations directed to the cleaning solution in which the stylus portion of the probe pin facing downward is immersed" of Claim 1 was interpreted as "the ultrasonic vibration generator that is composed of

a vibrator that is provided within an internal room formed between the bottom of the cleaning container and the bottom of the external box, and secured to the outer bottom of the cleaning container; and an oscillator that is electrically connected with this vibrator and placed outside the external box” based on page 6, lines 14-20 of specification. Claim 3 states “...an ultraviolet irradiating means for irradiating the stylus portion of the probe pin with ultraviolet rays for detecting the presence or absence of a foreign particle on the portion.” The source of the “...ultraviolet irradiating means for irradiating the stylus portion of the probe pin with ultraviolet rays for detecting the presence or absence of a foreign particle on the portion” of Claim 3 was interpreted as “a black light apparatus” based on page 8, lines 12 and 14-18 of specification.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over TeleChem, in view of Lord (U.S. Patent 4,442,852, hereafter ‘852), and further in view of Ferrell (U.S. Patent 5,505,785, hereafter ‘785).

Claims 1 and 7: TeleChem teaches a fixing member that fixes pins upright [clear plastic center of Figs. 1-2] as well as a supporting member for supporting the fixing member [the white rack, Figs. 1-2] while being cleaned in an ultrasonic machine [Fig. 2] in which the stylus portion of the probe pin is immersed in the cleaning solution [Fig. 2]. Figures 1-2 show that the legs of the support member hold the fixing member above the bottom of the tank. Furthermore, the tank

is capable of holding cleaning solution at a lower level than the fixing member. Therefore, TeleChem teaches the supporting member supports the fixing member above the cleaning solution so that a stylus portion of the probe pin is immersed in the cleaning solution.

It does not teach a cleaning container for containing cleaning solution or that the ultrasonic vibration generator that is composed of a vibrator that is provided within an internal room formed between the bottom of the cleaning container and the bottom of the external box, and secured to the outer bottom of the cleaning container; and an oscillator that is electrically connected with this vibrator and placed outside the external box. However, '852 teaches a cleaning container [(20), Fig. 1, col. 3, lines 15-19] for containing a cleaning solution [(30), Fig. 1, col. 3, line 27]. It also teaches that the cleaning container is an ultrasonic cleaner [abstract, (10), Fig. 1, col. 3, line 9] that contains a vibrator [(24), Fig. 1] provided within an internal room [the cabinet is (12), Fig. 1, col. 3, line 10, and the cutaway reveal the vibrator in an internal room] formed between the bottom of the cleaning container [col. 3, lines 19-23] and the bottom of the external box [(18) references the feet on which the bottom of the cabinet or external box rests, Fig. 1], and secured to the outer bottom of the cleaning container for increasing the cleaning performed [col. 3, lines 23-30]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the ultrasonic cleaner of '852 as the cleaner of TeleChem because '852 teaches that it increases the cleaning performed.

They do not teach that the oscillator that is electrically connected with this vibrator and placed outside the external box. However, '785 teaches an oscillator [(610), Fig. 6, 610 is the ultrasonic generator that include a frequency modulation capability] connected to the vibrators [(606 and 608), Fig. 6] and located outside of the external box [col. 9, lines 57-67] that prevents

the formation of standing waves in turn preventing damage to the wafers being cleaned. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the oscillator of '785 as the oscillator in the cleaning device of TeleChem because '785 teaches that it is able to prevent damage from occurring by preventing the formation of standing waves.

Claims 2 and 8: TeleChem, '852, and '785 teach the limitations of claims 1 and 7, respectively, above. They do not teach that cleaning solution includes ethyl alcohol. However, '135 teaches that the cleaning solution includes ethyl alcohol [col. 1, lines 61-65; col. 2, lines 2-5]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the cleaning solution of '135 as the cleaning solution of TeleChem because '135 teaches that it is a suitable cleaning solution for use in an ultrasonic device for materials made of metal [col. 4, lines 47-54].

7. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over TeleChem, '852, and '785 as applied to claim 2 above, and further in view of Jackson.

Claims 3 and 9: TeleChem, '852, '785, and '135 teach the limitations of claims 2 and 8, respectively, above. They do not teach an ultraviolet irradiating means (i.e. a black light). The Examiner takes Official Notice that is common knowledge to one of ordinary skill in the art of cleaning that a black light can be used to evaluate the cleanliness of products. See for example, Jackson, where black light inspection techniques have been used to evaluate cleaned products [e.g. electronic] [page 233, Application and Performance]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the black light of Jackson to inspect the cleanliness of the TeleChem apparatus because Jackson teaches that it is a suitable means for evaluating cleaned products.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole Blan whose telephone number is 571-270-1838. The examiner can normally be reached on Monday - Thursday 8-5 and alternating Fridays 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Application/Control Number:
10/802,717
Art Unit: 1792

Page 7

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NRB



MICHAEL CLEVELAND
SUPERVISORY PATENT EXAMINER